8 Population Assessment

Periodic evaluation of progress toward national, state and local immunization goals enables managers to set objectives, plan strategies and direct limited program resources rationally and effectively. The National Immunization Survey (NIS) provides immunization coverage data on children 19-35 months of age for the state and local immunization grantees and selected urban areas. The Behavioral Risk Factor Surveillance System (BRFSS) provides influenza and Pneumococcal vaccination data for adults age 18 years and older for all 50 states, the District of Columbia and Puerto Rico. Assessment of children entering school and day care provide additional population data points, even though the ultimate purpose of these surveys is to assure compliance with state vaccination laws.

Keywords:
Adult Assessments
Behavioral Risk Factor Surveillance System (BRFSS)
Cluster surveys
Day care assessment
Exemption rates
Immunization coverage data
National Immunization Survey (NIS)
Pockets of need
School assessment
Surrogate measures

Some states have recently added entry requirements for middle/junior high and high school grade levels. If these grades are surveyed, the resulting data may be useful to generate rough estimates of vaccine coverage among adolescents. Nationally, the validity of these estimates will increase as more states add middle school entry requirements.

The NIS, school and day care-based surveys, and BRFSS provide measures of progress toward national Healthy People 2010 immunization goals. Achieving and maintaining 90% coverage of all ACIP-recommended pediatric vaccines by the second birthday remains our highest priority nationally. However, substantial VPD morbidity is occurring in adolescent and adult populations. Therefore, implementing programmatic interventions to increase immunization levels among high risk adolescents and adults is important in order to reach the Healthy People 2010 objectives for these groups.

Independent surveys conducted by state and local public health agencies may be beneficial to confirm the NIS or BRFSS results and to estimate coverage in special sub-populations such as certain racial or ethnic minorities, WIC enrollees, adolescents, health care workers, senior citizens and persons with medical conditions that put them at high risk for VPDs. In addition, programs should identify pockets of under-immunized individuals either by estimating coverage

directly or by examining demographic factors known to be associated with under-immunization. Factors such as poverty, large family size and low maternal educational achievement often can be used as surrogates for low immunization coverage.

ACTIVITY AREAS

8.1 General Population Assessments
8.2 Special Population Assessments

References:

- Sampling Procedures for Conducting Immunization Assessments/Validation Surveys for School and Day Care Centers, Retrospective Surveys Using School Systems Databases and Guidelines for Public Health Immunization Clinic Audits for Immunization Project Areas (CDC, 1990) Appendix 2
- Technical Support for Conducting Immunization Assessments/Validation Surveys for Preschool Programs (Daycare, Head Start, and Prekindergarten Programs), Kindergartens, First Grades, And Middle Schools. (CDC, 2003, Appendix # to be provided at a later date).
- National Immunization Survey Reports (CDC)
- Behavioral Risk Factor Surveillance System Reports (CDC)

8.1 GENERAL POPULATION ASSESSMENTS

ACTIVITIES to evaluate progress toward program-wide immunization goals:

- ✓ **8.1.1** Use a CDC-approved sample survey methodology to annually estimate program-wide immunization coverage and exemption rates among children entering kindergarten, first grade, and/ middle school/junior high and validate coverage reports received from schools. Note: grantees may submit a data file from annual assessment activities. Upon receipt of the file, CDC will analyze the data and provide the results to the grantees.*

Outcome Measure: *Percent of school enterers who are complete for recommended vaccines.*
Target: *At least 95% of all school enterers*

8.1.2 Using data obtained from the annual school validation assessment, retrospectively estimate immunization coverage of school enterers when they were two years of age. Note: grantees may submit a data file from annual assessment activities. Upon receipt of the file, CDC will analyze the data and provide the results to the grantees.*

Outcome Measure: *Percent of school enterers up-to-date at second birthday.*
Target: *90% of school enterers up-to-date at second birthday*

✓ **8.1.3** Using a CDC-approved sample survey methodology, biennially estimate program-wide immunization coverage and exemption rates of children in programs daycare, Head Start, and prekindergarten programs and validate coverage reports received from these programs. Note: grantees may submit a data file from annual assessment activities. Upon receipt of the file, CDC will analyze the data and provide the results to the grantees.*

Outcome Measure: *Percentage of day care enrollees that are age-appropriately immunized*
Target: *>95%*

✓ **8.1.4** Annually, use the Behavioral Risk Factor Sample Survey (BRFSS) to estimate state-specific influenza and Pneumococcal immunization coverage levels among adults 65 years of age and older, 50-64 (influenza), and 18-64 with high-risk medical conditions.

Outcome Measure: *Influenza and Pneumococcal coverage levels for persons ≥65years of age*
Target: *90%*

Outcome Measure: *Influenza coverage estimates for persons 50-64 years of age and persons aged 18-64 years with asthma, diabetes, or heart disease*
Target: *60%*

Outcome Measure: *Pneumococcal coverage levels for persons 18-64 years with diabetes or heart disease*
Target: 60%

8.1.5 Monitor the impact of varicella immunization on incidence of disease by adding a question about previous infection with varicella disease in the BRFSS.

8.1.6 Using a CDC-approved birth certificate follow-back survey methodology, estimate grantee-wide immunization coverage at the second birthday of children who turn two years of age during a one year period. Note: grantees may submit a data file from annual assessment activities. Upon receipt of the file, CDC will analyze the data and provide the results to the grantees.*

Outcome Measure: *Percent of children up-to-date at the second birthday*
Target: *90%*

*Please note that activities related to school and daycare assessment have changed significantly. Grantees may submit a data file from annual assessment activities rather than submit a summary report. Upon receipt of the file, CDC will analyze the data and provide the results to the grantees. This does not preclude grantees from performing their own analyses, but will reduce the analyses required for grantees' annual reports. Using submitted data, CDC will provide to the grantees:

- Estimates of the percentage of kindergarteners, first graders, and middle/junior high school children who are up-to-date for each of the recommended vaccines;
- Estimates of the percentage of kindergarteners and first graders who were up-to-date for each of the recommended vaccines at their second birthday;
- Estimates of the percentage of children in preschool facilities who are up-to-date for each of the recommended vaccines;
- Estimated coverage rates for preschool, kindergarten, first grade and middle school children by geographic and demographic categories.

8.2 SPECIAL POPULATION ASSESSMENTS

ACTIVITIES to identify and evaluate subpopulations at risk of under immunization and exposure to VPDs:

✓ **8.2.1** Identify and monitor pockets of under immunized children and adults (Pockets of Need {PON's}) using immunization coverage estimates derived from cluster surveys, immunization registries, Medicare billing data, school-enterer and retrospective immunization surveys, provider coverage estimates, long term care facility assessments, and BRFSS enhancements (over sampling specific subpopulations).

Outcome Measure: *Coverage improvement in PONs*
Target: *Set by individual program*

✓ **8.2.2** Assess hepatitis B coverage rates at STD, HIV, adolescent, correctional and other high-risk clinics and facilities.

Performance Measure: *Number [increase] of clinics and facilities serving high risk groups assessed, by facility type*
Target: *Set by individual program*

Outcome Measure: *Estimate hepatitis B coverage by percent of clients offered hepatitis B vaccine who complete the series and type of facility and/or group*
Target: *Set by individual program*

✓ **8.2.3** Assess hepatitis B coverage rates among at-risk immigrant Asian-Pacific populations as appropriate.

Outcome Measure: *Estimate hepatitis B coverage by percent of clients offered hepatitis B vaccine who complete the series and/or population sub-groups*
Target: *Set by individual program*

✓ **8.2.4** Assess coverage rates among WIC, Medicaid and/or SCHIP populations.

Outcome Measure: *Number and percent [increase] of population age-appropriately immunized, by type of program (WIC, Medicaid, SCHIP, etc.)*
Target: *90% up-to-date*

✓ **8.2.5** Determine influenza and Pneumococcal coverage rates among residents and influenza coverage rates among staff of nursing homes and long

term care facilities by working with the nursing home licensing agency and other agencies concerned with long term care.

Performance Measure: *Number [increase] of facilities assessed, by facility type*
Target: *Set by individual program*

Outcome Measure: *Estimated percent of resident population in nursing home/long term care facilities immunized in most current influenza season and/or ever immunized with Pneumococcal vaccine*
Target: *90% of all long term care residents*

8.2.6 Use a community-based, household cluster survey to measure immunization coverage and sociological factors associated with failure to immunize. Cluster surveys are resource intensive and should be undertaken only in response to a critical need (e.g., low or persistent drops in other indicators of immunization coverage).

8.2.7 Routinely obtain immunization coverage reports from managed care organizations (Medicaid and commercial) for two-year-olds, 13-year-olds, ≥65-year-olds and/or high risk subpopulations such as persons with diabetes, chronic pulmonary disorders, etc.

Performance Measure: *Number and percent of MCOs routinely providing coverage estimate for various age- and at risk-groups*
Target: *Set by individual programs*

8.2.8 Conduct a survey to determine the number of colleges and universities that require entering students to have MMR2, hepatitis B series, a Td booster, and varicella and/or, where appropriate, meningococcal vaccine.

Performance Measure: *Number and percent of colleges requiring various immunizations for entry*
Target: *Set by individual programs*

8.2.9 Measure influenza vaccination coverage in women who were past 1st trimester of pregnancy during influenza season, using currently pregnant women in BRFSS, managed care databases, or WIC participants; in states participating in the Pregnancy Risk Assessment Monitoring System (PRAMS) (31 states and New York City as of May 2003), work with the local PRAMS coordinator to include standard, CDC-developed influenza vaccination questions on the survey.

Performance Measure: *number of pregnant women offered influenza vaccination; percent of women who were past 1st trimester during influenza season who received influenza vaccination*
Target: *Set by individual programs*

ATTACHMENT 1 – (as of 16 May, 0930hrs)

PANDEMIC INFLUENZA PREPAREDNESS: PLANNING AND IMPLEMENTATION

Influenza viruses are unique in their ability to cause sudden, pervasive infection in all age groups on a global and pandemic scale. Influenza pandemics have occurred three times in the 20th century (1918, 1957, and 1968) with more than 20 million deaths worldwide in the 1918 pandemic alone. Recent avian influenza virus outbreaks infected humans in Asia (1997, 1999, and 2003) and in Europe (2003). If such a virus, in addition to infecting persons, can spread efficiently from person to person, it is clear that it could initiate the next influenza pandemic. It is also clear that State and local jurisdictions will be called on to play critical roles in responding to such an outbreak and as such need to develop and exercise pandemic influenza preparedness and response plans, including surveillance and laboratory capacities.

Pandemic Influenza Preparedness is a public health priority and as such is addressed as a key activity in both the Continuation Guidance for Budget Year Four of the Bioterrorism Cooperative Agreement and the 2004 Immunization Continuation Grant Application Guidance. As State and local health departments move forward on this public health priority the integration of Bioterrorism and immunization planning and program infrastructures are appropriate and necessary. To achieve preparedness and to maximize funding and its efficient and effective use, grantee Immunization and Bioterrorism programs will need to collaborate closely both the development and exercising of jurisdictional pandemic influenza plans.

For the Immunization Program specifically, and also of interest to the grantee's BT Project manager, activity areas to be considered for Pandemic Influenza Preparedness include preparedness planning for those who have not initiated or completed a pandemic influenza plan and preparedness implementation for those who have completed their pandemic influenza plan.

State and local pandemic influenza preparedness plans can be established as a stand-alone plan, an annex to a state's or jurisdiction's "All Hazards" Plan and/or an adjunct to planning for acts of chemical or biological terrorism.

ACTIVITY AREAS

1. Preparedness Planning
2. Preparedness Implementation

References:

- *Pandemic Influenza: A Planning Guide for State and Local Officials* (CDC NVPO) www.cdc.gov/od/nvpo
- Examples of State pandemic influenza preparedness plans (CSTE) www.cste.org
- Continuation Guidance for Budget Year Four of the Bioterrorism Cooperative Agreement
- The 2001 National Pandemic Influenza meeting (an important milestone) and the

PANDEMIC INFLUENZA PREPAREDNESS

The components of a State and local pandemic influenza preparedness planning and implementation include:

1.1 Preparedness Planning

ACTIVITY: prepare a written State/local pandemic influenza preparedness plan:

- Establish an executive planning Committee
- Involve all relevant organizations actively in the public and private sectors in the planning process
- Ensure collaborative network between the public health, bioterrorism and emergency response communities
- Establish relationships, responsibilities, and communication frameworks among various organizations at the national, State and local levels
- Ensure appropriate legal authority in place for dealing with various aspects of the pandemic influenza response
- Focus on actions that are most crucial to effective planning, response and mitigation at the State and local levels, including:
    1. Devise the concept of operations, i.e., the command structure and lines of authority and communication for managing day-to-day activities during the pandemic
    2. Enhance virologic (laboratory-based) and disease-based surveillance systems for influenza
    3. Develop policies and procedures for distributing (and monitoring coverage of) influenza vaccine to the entire population in priority order (depending on vaccine supply)
    4. Develop policies and procedures for providing antiviral agents (amantadine and rimantadine) to high-priority target groups, especially when vaccine is in short supply
    5. Develop a comprehensive communications plan for effective interactions with the media, the medical community, the general public, and neighboring jurisdictions, and to transmit surveillance data and other relevant information to the national level
    6. Develop contingency plans for emergency preparedness, including the provision of adequate medical care and maintenance of essential community services ("human infrastructure")
- "Market" the State and/or local preparedness plan to appropriate partners, stakeholders, lawmakers, and decision-makers to obtain the necessary support and resources in advance of a pandemic influenza declaration

1.2 Preparedness Implementation

ACTIVITY: test and implement a State/local pandemic influenza preparedness plan:

- Exercise the pandemic influenza plan and revise the plan based upon the results of the exercise.